

Prototype Measures of Economic Well-Being and Growth

While the United States produces some of the most accurate, timely, and relevant sets of national economic accounts, in recent years there has been a renewed interest in economic statistics that go beyond GDP in measuring well-being. This includes better tracking and highlighting economic activity that is included in GDP—a key driver of economic well-being—and capturing nonmarket goods and services that are not included in GDP but are also important determinants of economic well-being.

BEA recently embarked on an initiative—GDP and Beyond—to identify ways to use its data resources and statistical knowledge to inform the discussion of well-being. As part of the first phase of that initiative, BEA has re-packaged statistics from its core accounts with data from statistical agency partners in ways that provide new perspectives on economic well-being and the distribution and long-term growth of the economy. These measures include:

- Economic well-being measures like GDP per capita and inflation and employment trends.
- Distribution statistics such as real GDP growth by industry, real personal income per capita by state, and the distribution of personal income across households.
- Long-term growth indicators including trade balances, U.S. budget deficits over time, and trends in U.S. business cycles.

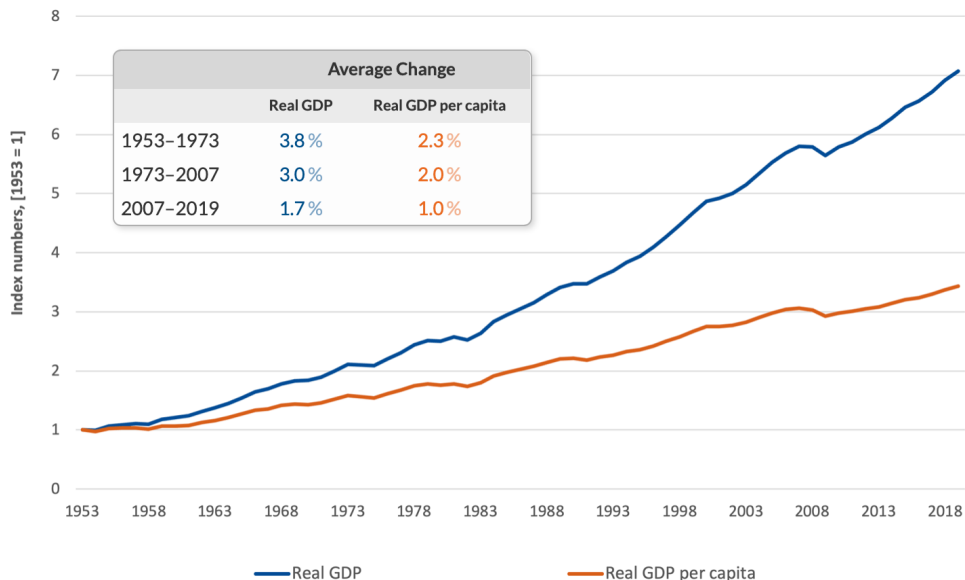
Spotlighting data that are already included in BEA's datasets or that can easily be derived from existing statistics provides an expanded look at trends in economic well-being and the drivers of economic growth.

For more information on these prototype measures of economic well-being and growth and BEA's broader GDP and Beyond initiative, or to provide input into this project, see [Background Materials and Feedback](#).

These measures reflect data available at the time of the 2019:IV "advance" GDP release, published on January 30, 2020.



GDP and GDP Per Capita



While the growth and size of GDP are oft-cited measures of the nation's economic health, they provide limited information on economic well-being. A large and growing GDP may simply reflect a large and growing population. GDP per capita standardizes for population and is often used as a proxy for a nation's standard of living.

Real—inflation-adjusted—GDP per capita has grown more slowly than real GDP, increasing 2.3 percent per year on average between 1953 and 1973, compared with 3.8 percent for real GDP. Between 2007 and 2019, growth slowed with real GDP per capita increasing at 1.0 percent per year and real GDP growing at 1.7 percent per year.



Data: Real GDP and real GDP per capita, 1953–2019

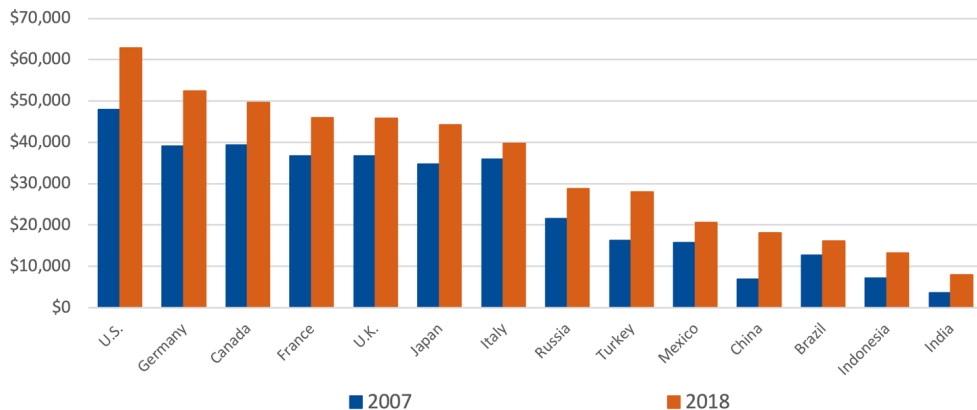
Source: BEA NIPA table 1.1.6 and NIPA table 7.1

U.S. GDP Per Capita

Comparison with G-7 Developed Economies and Selected Other Countries



Although growth in U.S. GDP per capita has been slower over the current business cycle than in earlier periods (see "GDP and GDP Per Capita" above), U.S. growth has exceeded growth in G-7 developed economies and is well above the growth in other key nations. As a result, U.S. GDP per capita remains amongst the highest in the world.



Data: GDP per capita for G-7 developed economies and selected other countries, 2007 and 2018

Source: International Monetary Fund DataMapper: "GDP per capita, current prices (purchasing power parity; international dollars per capita)"

Purchasing power parities relate changes in the nominal exchange rates between countries' currencies to changes in the countries' prices, providing a mechanism for directly comparing buying power across countries.

Income Growth and its Distribution



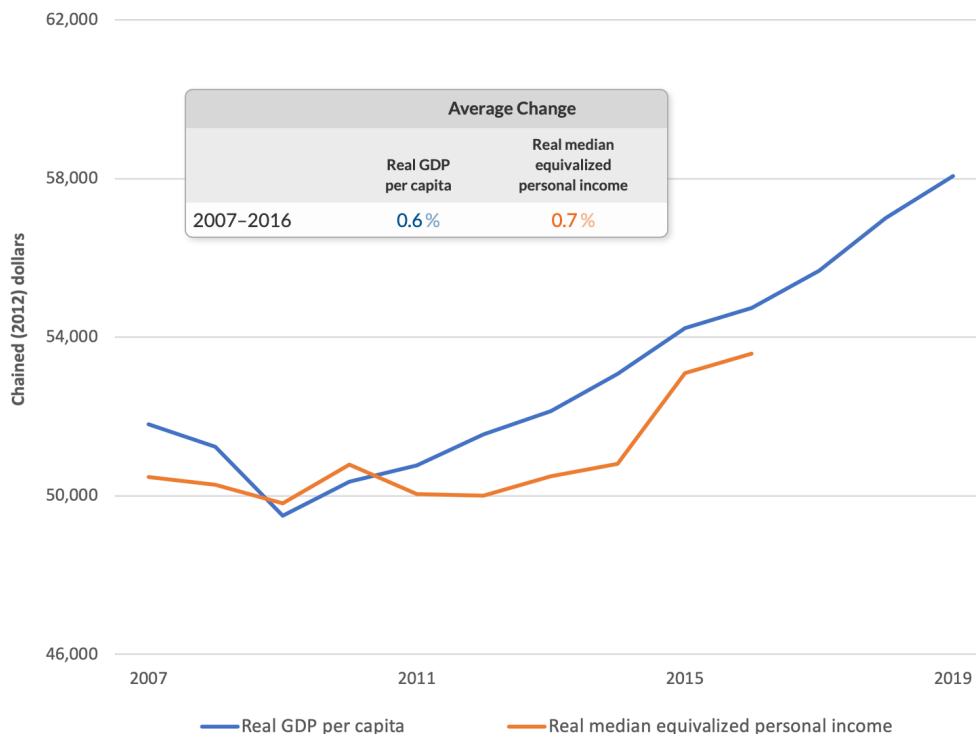
Real GDP per capita and real median personal income provide two different perspectives on the impact of economic growth.

Real GDP per capita spreads total production across the entire population equally.

Alternatively, real median equivalized personal income—that is, adjusted for household size—provides an inflation-adjusted measure of total income received by the "middle" income household, whose income is below 50 percent of households and above the other 50 percent of households.

Real median personal income is a more appropriate gauge of how the U.S. economic pie is distributed because it focuses on how income accrues to households rather than on GDP, which is a measure of production.

BEA recently released prototype estimates for real median equivalized personal income for 2007–2016. During this period, real median personal income grew 0.7 percent per year, similar to the growth in real GDP per capita of 0.6 percent per year.



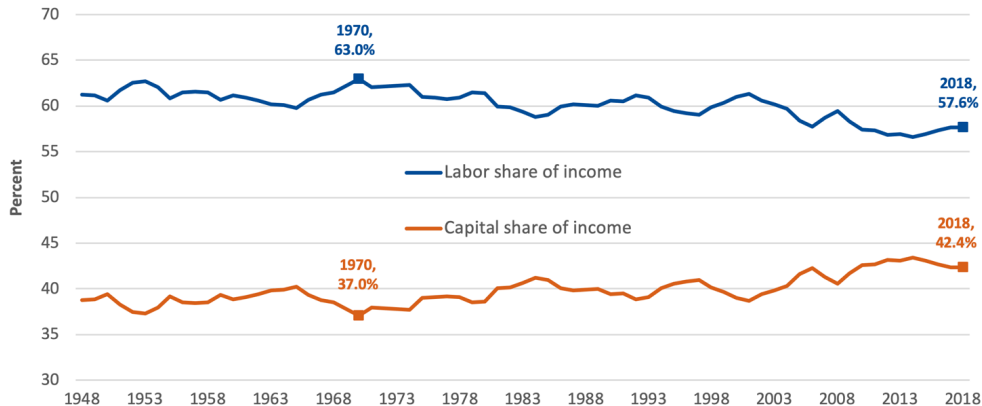
Data: Real GDP per capita, 2007–2019, and real median equivalized personal income in 2012 dollars, 2007–2016

Source: BEA NIPA table 7.1, BEA prototype distribution of personal income estimates

In addition to differences related to the concepts of "median" and "mean" and between GDP and personal income, there are other important conceptual differences between GDP per capita, median personal income, and other available measures of the distribution of income (like those produced by the Census Bureau).

Distribution of Income

Between Labor and Capital



One driver of the changing distribution of income is the movement in the share of labor income relative to capital income. After reaching 63 percent in 1970, labor's share of income has generally declined, and in 2018 stood at about 58 percent. Capital's share of income increased from 37 percent in 1970 to about 42 percent in 2018.



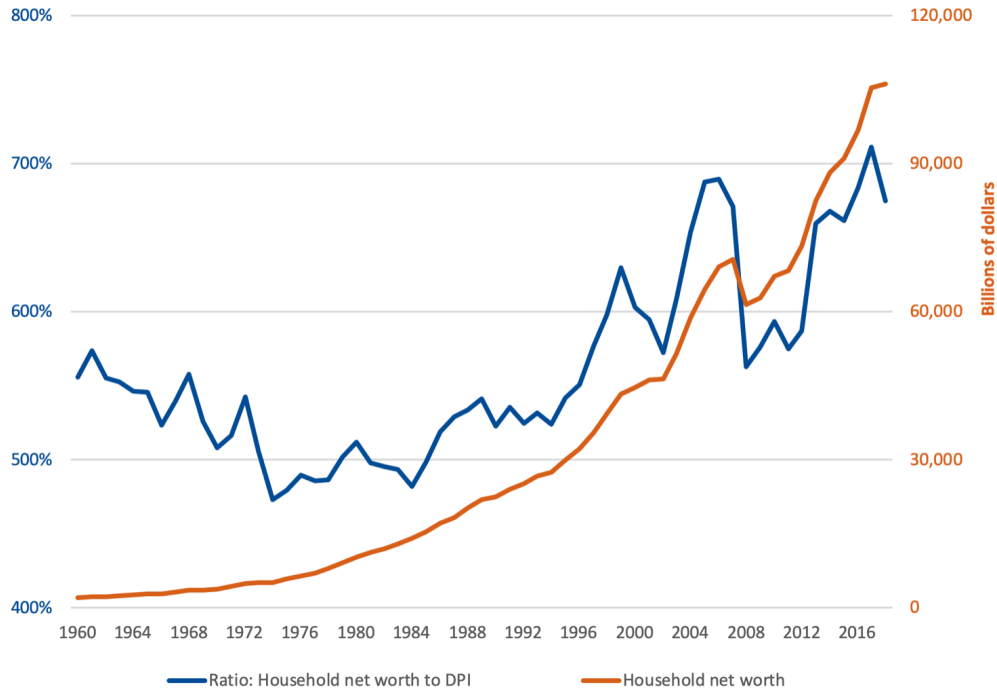
Data: Labor and capital shares of gross domestic income, 1948–2018

Source: BEA NIPA table 1.10

Labor share of income is calculated as compensation divided by gross domestic income excluding proprietors' income, which is a mix of labor and capital income. Capital share of income includes rental income, profits, and net interest and is calculated as gross domestic income excluding compensation and proprietors' income divided by gross domestic income excluding proprietors' income.

American's Financial Well-being

Trends in Household Wealth as Measured by Net Worth



Another key measure of the economic well-being of a nation is its wealth. Wealth increases economic welfare by supplementing income for large purchases, unemployment, emergencies, retirement, education, and bequests to heirs.

Since 1960, household wealth—measured by net worth (that is, household assets less liabilities)—has risen every year except for in 2008 during the Great Recession.

In addition, the ratio of household net worth to disposable personal income (DPI) indicates whether growth in saving, and hence wealth, is keeping up with growth in incomes and households' retirement income requirements.

During the post-WWII era, net worth of households as a percentage of DPI has risen, with net worth nearly seven times larger than DPI in 2018.



Data: Ratio of household net worth to disposable personal income (DPI) and household net worth, 1960–2018

Source: [BEA-FRB integrated macroeconomic accounts table S.3.a](#), [BEA NIPA table 2.1](#)

In 2019, the Federal Reserve Board (FRB) introduced Distributional Financial Accounts of the United States, which include estimates of the distribution of household wealth. As part of its GDP and Beyond initiative, BEA plans to work with FRB to develop integrated accounts for the distribution of U.S. household income, consumption, and wealth.

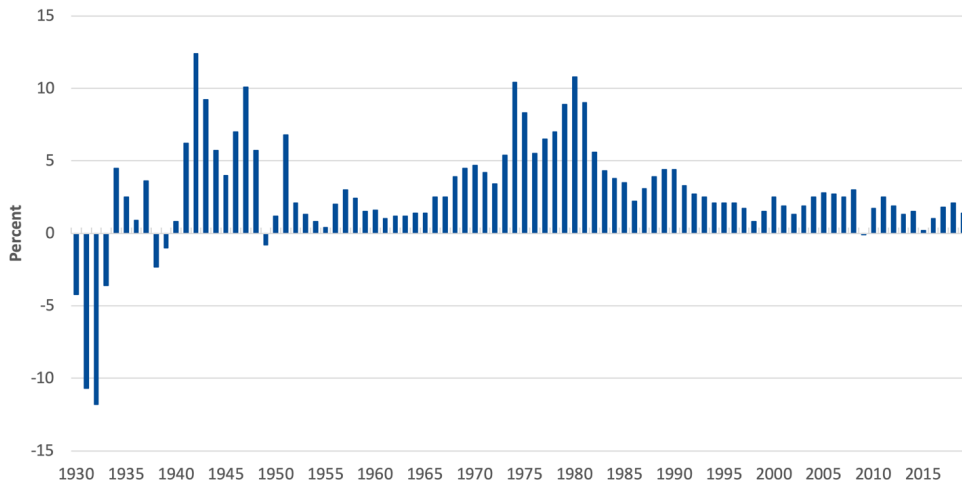
Inflation Trends

Percent Changes in Consumer Prices



Inflation, especially high and variable rates of inflation, can affect economic well-being, including eroding the real income and purchasing power of those on fixed incomes and more generally transferring income from debtors to creditors.

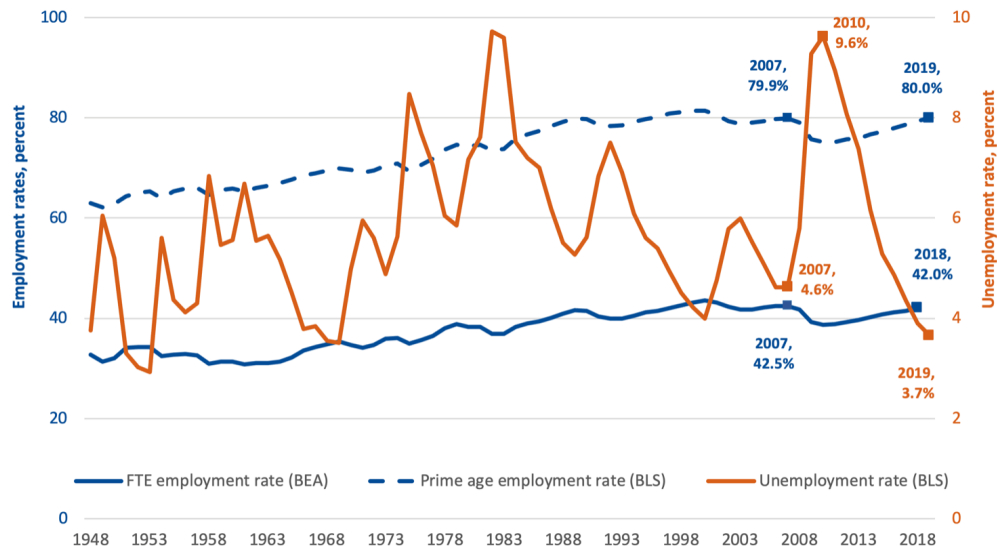
After a period of deflation during the Great Depression, inflation peaked in the immediate post-WWII era and later in the 1970s and 1980s. Since the mid-1990s, inflation has remained in the 2 percent range, low by historical standards.



Data: Percent changes in PCE price index, 1930–2019

Source: BEA NIPA table 1.6.7

Employment Trends



Employment data are among the economic indicators most closely watched by households.

After rising to nearly 10 percent during the "Great Recession," unemployment—perhaps the best-known employment indicator—has fallen steadily to 3.7 percent in 2019 and is lower than the pre-recession mark of 4.6 percent.

In addition, two of the broader-based employment indicators, which are not affected by changes in labor force participation rates, have been rising. The overall (FTE) employment rate has risen and is nearing its pre-recession peak, and the prime age workers' employment rate is higher than before the recession.



Data: Employment and unemployment rates, 1948–2019

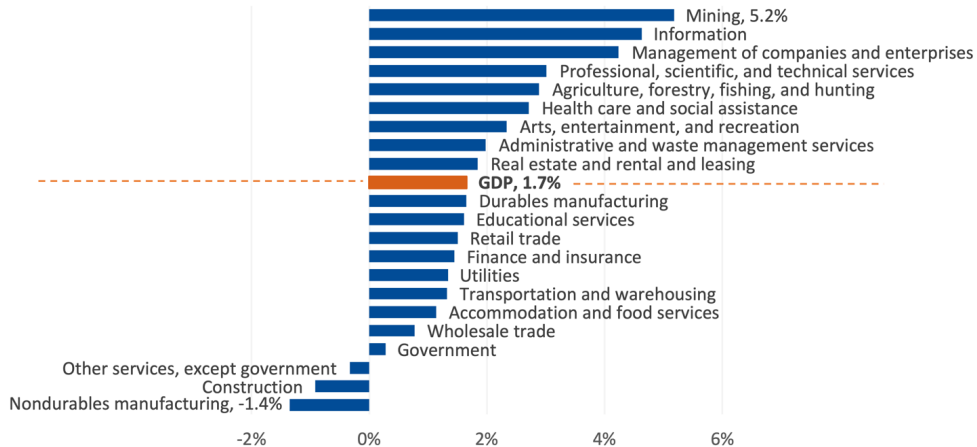
Source: BEA NIPA table 6.5A–6.5D and NIPA table 7.1, Bureau of Labor Statistics

Full-time equivalent (FTE) employment rate calculated as FTEs divided by population. Prime age employment rate calculated as number of employed civilian persons aged 25–54 divided by population of civilian noninstitutional persons aged 25–54. In concept, the number of persons employed plus the number of persons unemployed plus the number of persons not in the labor force should equal the population.

Industry Comparison of Economic Growth



The economic experience across industries varies significantly. During this business cycle, real GDP grew at a 1.7 percent annual rate. Changes by industry ranged from a 1.4 percent decline in nondurable goods manufacturing to a 5.2 percent increase in mining industries.



Data: Average Annual Changes in Real Value Added by Industry, 2007:IV–2019:III

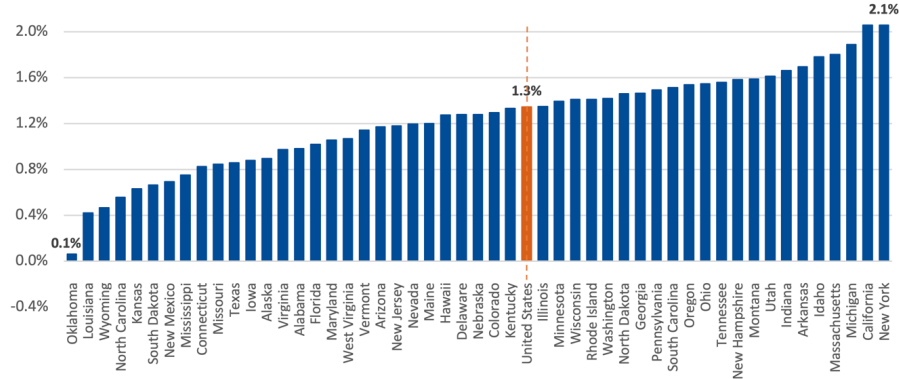
Source: BEA GDP by Industry table "Chain-Type Quantity Indexes for Value Added by Industry"

State Comparison of

Personal Income Growth & Income Per Capita

Personal Income Growth

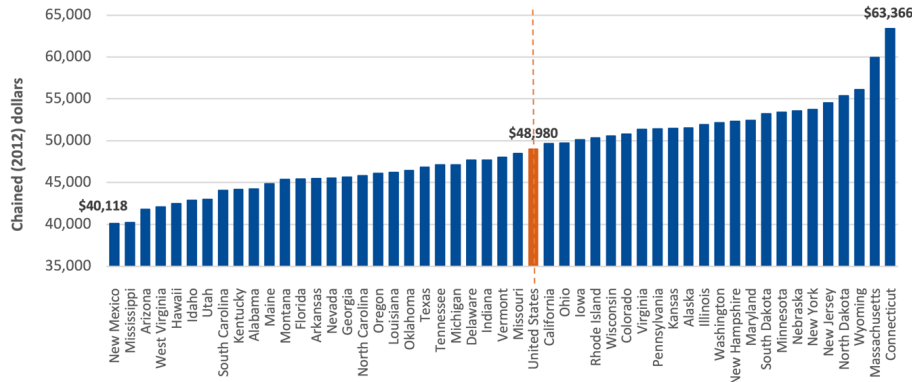
Income per Capita



While figures on GDP, employment, and inflation for the nation dominate news coverage, the economic experience across the country varies considerably. During the current business cycle (calculated with annual data available from 2008 through 2017), real personal income per capita grew at an average annual rate of 1.3 percent, with Oklahoma growing by 0.1 percent and New York growing by 2.1 percent. Similarly, in 2017, real personal income per capita for the nation ranged from \$40,118 in New Mexico to \$63,366 in Connecticut.

Personal Income Growth

Income per Capita



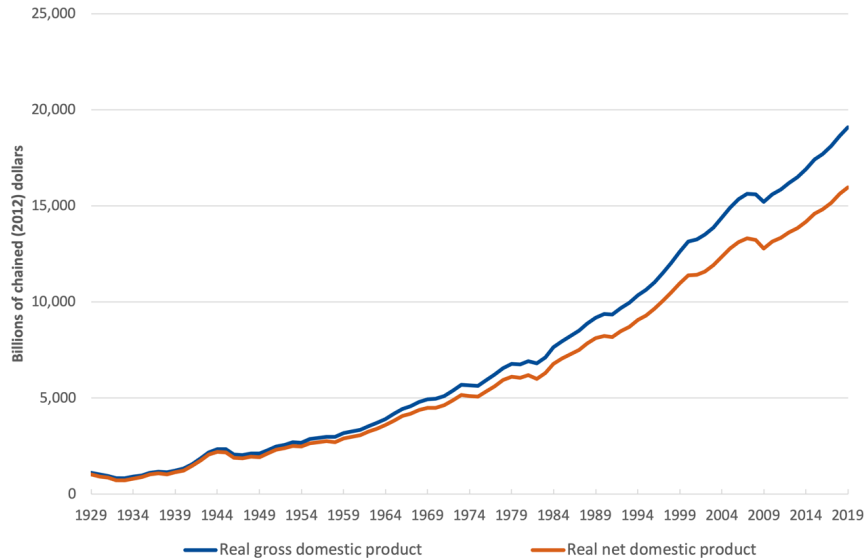
Data (Personal Income Growth): Average Annual Changes in Real Per Capita Personal Income by State, 2008–2017

Data (Income per Capita): Real Per Capita Personal Income by State, 2017

Source: BEA Real Personal Income by State table "Real Per Capita Personal Income (chained 2012 dollars)"

Value for the United States includes the 50 states and the District of Columbia.

Real GDP vs Real Net Domestic Product



Economists since the time of Adam Smith have been concerned with sustaining a level of economic growth that would provide for a rising standard of living for a growing population. In the national accounts, sustainable growth is measured by net domestic product (NDP), which is equal to GDP less depreciation, that is, what is left over for consumption after deducting the amount necessary to replace the capital used up in that production.

Over the last few decades, NDP has grown more slowly than GDP. This is the result of gross investment spending (a component of GDP) growing more slowly than depreciation. This means that the share of investment left after replacing the capital that has been used up in production is getting smaller. This slowing of investment spending has reduced the net investment available for activities that produce economic growth and that lead to a rise in productivity and standards of living.



Trends in Economic Growth



Growth in GDP is essential to economic well-being.

Over time, there has been a slowdown in all three of the sources of economic growth—labor and capital inputs and multifactor productivity (real GDP per unit of output)—which has contributed to the declining rate of long-term growth.

The slowdown in labor input is accounted for by demographic factors such as the aging and retirement of the population and economic factors such as lower labor force participation. The slowdown in capital services reflects a slowdown in net investment (and saving). The slowdown in multifactor productivity is much debated and reflects many factors, including the pace of technological change.



Component	Average Annual Growth		
	1987–2007	2007–2017	Difference
Real GDP	3.1 %	1.5 %	-1.6 %
Labor input	1.5 %	0.8 %	-0.7 %
Capital services	4.0 %	2.2 %	-1.8 %
Multifactor productivity	1.1 %	0.4 %	-0.7 %
Contributions to Growth [Percentage points]			
Real GDP ¹	3.1	1.5	-1.6
Labor input	1.00	0.49	-0.51
Capital services	1.37	0.86	-0.52
Multifactor productivity	0.71	0.14	-0.57
¹ Estimates under the contributions columns are also percent changes. Source: BEA NIPA table 1.1.3, Integrated BEA GDP-BLS productivity accounts Contributions to real GDP for labor input and capital services are calculated by multiplying labor's and capital's average shares in cost by their average annual growth rates; contributions to real GDP for multifactor productivity is the residual.			

Trade and the U.S. Economy **Over Time**

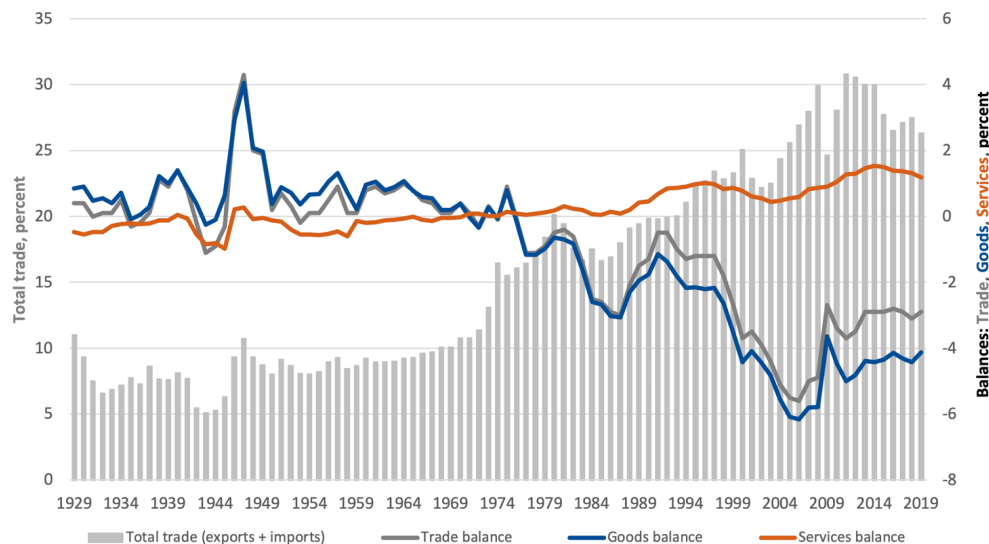
Total Trade and Trade Balances as Percentages of GDP



International trade is an important factor in economic growth. By allowing for specialization across nations and raising productivity, trade yields higher growth and standards of living.

Between 1948 and 2019, overall U.S. trade (exports plus imports) as a percentage of GDP grew from about 9 percent to over 26 percent. The increased international trade—along with higher quality economic data and better-informed policies and institutions—contributed to an unprecedented period of growth in standards of living in the United States and other developed economies. Since 1948, real GDP per capita quadrupled in the United States.

Until the mid-1970s, the United States had an international trade balance that was usually in surplus. Over time, the U.S. trade balance moved to persistent trade deficits (with deficits on goods more than offsetting surpluses in services). These trade deficits were the result of domestic spending that exceeded domestic production, or its mirror image, low national saving that reflects the higher domestic spending. The lower investment that often accompanies lower saving may slow growth in productivity, the economy, and standards of living, thereby offsetting some of the positive contributions of international trade to economic growth.

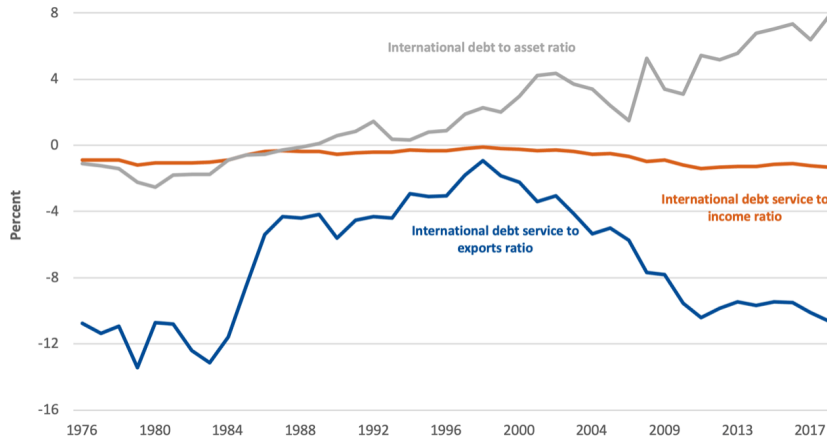


Data: Ratios of total trade, net exports, net exports of goods, and net exports of services to GDP, 1929–2019

Source: BEA NIPA table 1.1.5 and NIPA table 1.1.10

International Trade

Foreign Debt Service and Debt



One indicator of the long-term impact of U.S. trade deficits is the net amount the nation pays in external debt service, dividends, reinvested earnings, and other investment income to foreign investors relative to its exports. While the "debt service to exports ratio" generally increased from the mid-1970s through the late-1990s and trended downward thereafter, it has been consistently negative, meaning that the United States receives more in foreign investment income than it pays to foreign residents.

Because the U.S. dollar is an international currency, the United States' ability to service foreign debt is not constrained by the supply of currency earned through exports but by its income. Comparing net investment income payments to gross domestic income, shows that the "debt service to income ratio" has remained relatively stable over time.

Another key measure is the ratio of U.S. net liabilities to the rest of the world compared with U.S. household assets. The "international debt to asset ratio" has grown since the 1980s, with international debt equal to about 8 percent of U.S. assets in 2018.

Currently, U.S. receipts from overseas investments exceed payments for foreign investments in the United States, resulting in a surplus on international investment income even though the United States has outstanding net liabilities to the rest of the world. The rates of return earned by U.S. residents on assets abroad exceed the rates of return on foreign-held assets in the United States by a large enough amount to offset U.S. debt payments to the rest of the world.



Data: Trends in international debt service ratios and international debt to asset ratio, 1976–2018

Source: BEA NIPA table 1.7.5, BEA IIP table 1.1, BEA-FRB integrated macroeconomic accounts table S.3.a

The debt service to exports ratio is calculated as net investment income payments to the rest of the world (ROW) divided by exports. The debt service to income ratio is calculated as net investment income payments to ROW divided by gross domestic income. The debt to asset ratio is calculated as net U.S. liabilities to ROW divided by U.S. household assets.

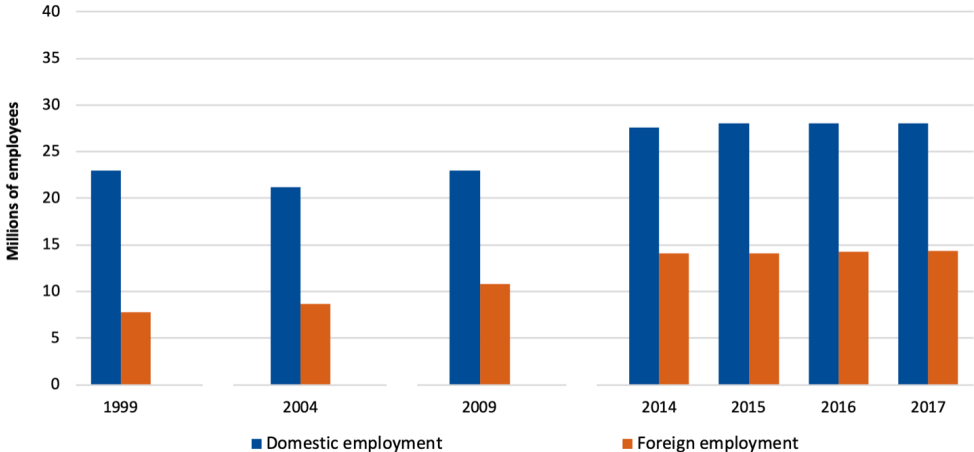
U.S. Multinational Companies' Employment in U.S. and Foreign Subsidiaries



The movement of U.S. jobs abroad by U.S. companies often is seen as a threat to the long-term growth of the U.S. economy and its ability to produce high-paying domestic jobs. A look at the data shows that most of U.S. multinational companies' employment remains in the United States. For example, in 2017, about 66 percent of U.S. multinationals' employment was in the United States.

The share of foreign employment has risen as large and emerging economies like India and China have expanded their share of world income. However, most employment remains in high- and middle-income countries rather than low-income countries. Growth in foreign employment has been concentrated in middle-income countries.

In addition, BEA data on U.S.-owned foreign companies show that most overseas subsidiaries sell their goods and services in the countries where they are located or to other foreign countries. In 2017, only 12 percent of U.S. foreign subsidiaries' sales were to the United States. These trends suggest that the location of foreign production is more for access to large and growing markets than for low-cost labor.



Share of Foreign Subsidiary Worldwide Employment by Level of Country Income			
Income	High	Middle	Low
1995	71 %	29 %	1 %
2000	68 %	32 %	1 %
2007	59 %	40 %	1 %
2017	47 %	52 %	1 %

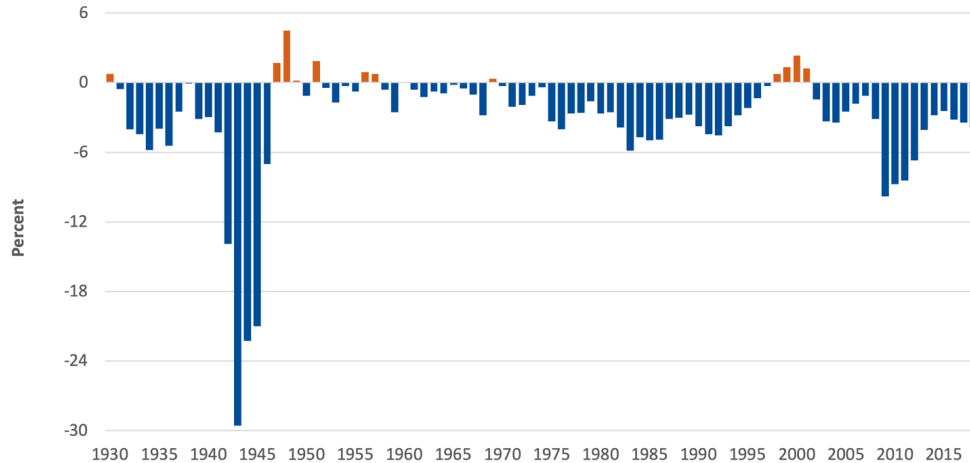
For a given year, shares may not sum to 100 percent due to rounding.

Breakout of Foreign Subsidiary Worldwide Sales: Snapshot for 2017 (share of total)	
Total	100 %
To host country	59 %
To other foreign countries	29 %
To United States	12 %

Source: BEA Activities of U.S. Multinational Enterprises
Income classifications reflect those issued by the World Bank as of October 2006. The income levels are classified in the following tiers based on countries' annual per capita gross national income in 2005 dollars: High-income (\$10,726 or more), middle-income (\$876 to \$10,725), and low-income (\$875 or less).

U.S. Budget and the **Economy** Over Time

Federal Surpluses and Deficits as a Percentage of GDP



Since 1930, the United States has run a federal budget deficit most years. Higher deficits have generally resulted from economic downturns and war (the Great Depression, World War II, the Korean War, the Vietnam War, and the Great Recession).



Data: Trends in federal surplus or deficit (-) as a percentage of GDP, fiscal years: 1930–2018

Source: BEA NIPA table 1.1.5, Office of Management and Budget

U.S. Budget Deficits

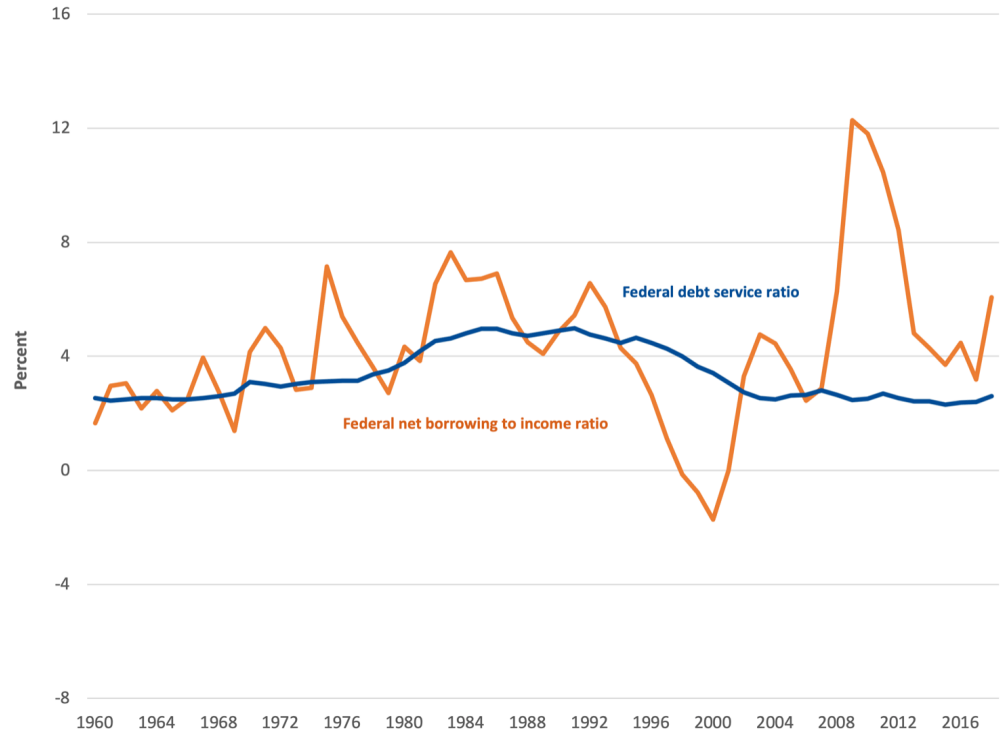
Federal Government Debt Service and Debt



There are several key indicators used to assess the economic effects of debt burdens. This includes borrowers' ability to service their debt and how borrowing in each period compares with income.

For the federal government, the ability to service debt is measured by the "federal debt service ratio," calculated as federal interest payments divided by gross national income (GNI). Borrowing compared with income is measured using the "federal net borrowing to income ratio," calculated as federal total expenditures less federal total receipts divided by national income.

The federal debt service ratio has remained relatively flat over the last few decades. In addition, while the federal net borrowing to income ratio has been much more volatile, even at its peak in 2009 during the Great Recession, it was not much higher than such debt ratios in the past 50 years and remained significantly below the debt ratios created by the large deficits recorded during WWII and the Great Depression (see "U.S. Budget and the Economy Over Time" above).



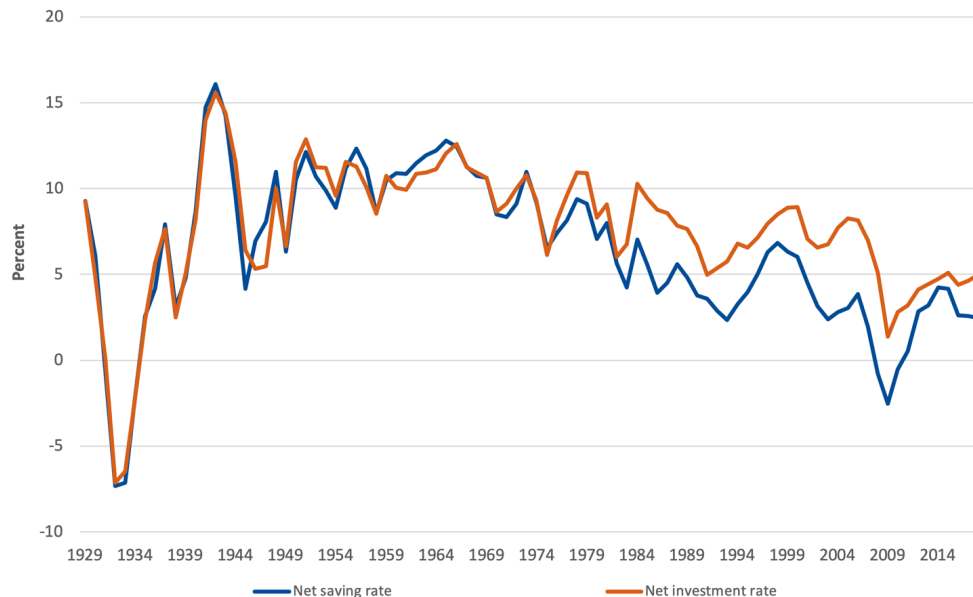
Data: Trends in federal deficits, debt, and debt service, 1960–2018

Source: BEA NIPA table 1.1.5 and NIPA table 3.2

The federal debt service ratio is calculated as federal interest payments divided by gross national income (GNI). The federal net borrowing to income ratio is calculated as total federal expenditures less total federal receipts divided by national income.

Saving & Investment for the Future

Net Saving and Net Investment as Percentages of GDP



Net investment—gross investment less depreciation—is often called sustainable investment. A significant share of gross investment in plant, equipment, and IT goes toward replacing capital that wears out (that is, depreciation). Net investment increases the nation's production capabilities.

Net saving represents the amount of net income that is available to finance net investment; however, net investment can also be financed by borrowing from the rest of the world.

During the post-WWII era, net investment and net saving have been trending down (with the related drags on productivity, growth, and standards of living). The downward trend in net investment has slowed growth in U.S. capital stock and capital services, accounting for a large share of the decline in trend GDP growth (see "Trends in Economic Growth" above).

The gap between the net investment rate and the net saving rate has widened over the last 35 years, with the net saving rate turning negative in 2008 during the Great Recession for the first time since the Great Depression.



Data: Net saving and net investment as percentages of GDP, 1929–2018

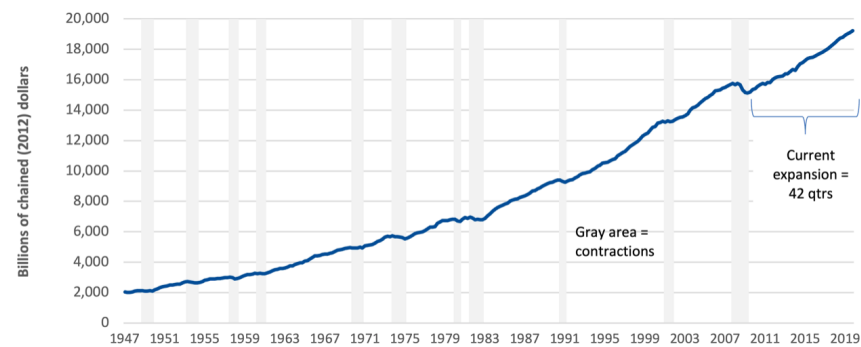
Source: BEA NIPA table 1.1.5 and NIPA table 5.1

Trends in U.S. Business Cycles

Rates of Change and Duration



At 42 quarters, the current economic expansion is the longest and slowest growing post-WWII expansion on record. The average expansion has lasted 22 quarters, and the average recession has lasted 4 quarters. Growth has averaged 4.4 percent during expansions; however, during this expansion, the economy has grown 2.3 percent on average.



Contractions	Avg. Change	Expansions	Avg. Change
1948:IV–1949:IV	-1.5 %	1949:IV–1953:II	7.6 %
1953:II–1954:II	-2.4 %	1954:II–1957:III	4.0 %
1957:III–1958:II	-3.9 %	1958:II–1960:II	5.5 %
1960:II–1961:I	-0.2 %	1961:I–1969:IV	4.9 %
1969:IV–1970:IV	-0.2 %	1970:IV–1973:IV	5.1 %
1973:IV–1975:I	-2.5 %	1975:I–1980:I	4.3 %
1980:I–1980:III	-4.3 %	1980:III–1981:III	4.3 %
1981:III–1982:IV	-2.0 %	1982:IV–1990:III	4.3 %
1990:III–1991:I	-2.7 %	1991:I–2001:I	3.6 %
2001:I–2001:IV	0.6 %	2001:IV–2007:IV	2.9 %
2007:IV–2009:II	-2.7 %	2009:II–2019:IV	2.3 %
Avg. length: 4 qtrs	-2.0 %	Avg. length: 22 qtrs	4.4 %

Data: Real GDP, 1947:I–2019:IV

Source: BEA NIPA table 1.1.3 and NIPA table 1.1.6

Expansions and contractions are consistent with the business-cycle turning points determined by the National Bureau of Economic Research.